

VANADIUM CORPORATION OF AMERICA

HAER No. CO-81-E

(VCA) NATURITA MILL, DRYERS

approximately three miles northwest of Naturita,
between Colorado State Highway and
the San Miguel River

Vicinity of Naturita

Montrose County

Colorado

HAER
COLO
43-NATU.V,
IE-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

VANADIUM CORPORATION OF AMERICAN (VCA) NATURITA MILL,
DRYERS HAER No. CO-81-E

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Location: In southeast quadrant of mill complex, west of Grinding/Rod Mill, approximately three miles northwest of Naturita, between Colorado State Highway 141 to the southwest and the San Miguel River to the northeast; in the NW1/4 of the SW1/4 of Section 14, Township 46 North, Range 16 West

Date of Construction: 1960-61

Designer: Fabricated by Telluride Ironworks, Telluride, Colorado

Builder: Built by VCA employees working under the direction of Troy Newland, master mechanic, Tom Kelly, assistant master mechanic, and Bob Newland, mill supervisor

Present Owner: Cyprus-Amax Minerals Corporation, 9100 E. Mineral Circle, Englewood, CO, 80112

Present Use: Vacant / Not in Use

Significance: The VCA Naturita Mill Dryers were erected in 1960-61 as part of an effort to reconstruct the facility as an experimental uranium and vanadium ore concentrating facility. Between 1958 (when the milling operation had closed) and 1961, VCA had been paying miners to ship raw ore to the company's Durango mill. By first concentrating the ore at Naturita, VCA hoped to greatly reduce the volume of ore shipped to Durango, and correspondingly reduce the company's shipping costs. In the end, however, the cost to concentrate the ore at Naturita was greater than the savings gained by reducing the tonnage shipped to Durango. As a result, the concentrating facility was not in operation for long. It closed in early 1963. During this two year period, the Dryers were utilized in the concentrating process. When the ore arrived at the mill, it was first deposited at the Weighing Station and Office where it was allotted a serial number identifying who produced it and where it had been mined. From the Weighing Station and Office, the ore was brought to the Sampling Building, where it was sorted, crushed, and a small percentage was separated out to be chemically analyzed in an assaying process.

The main ore body, meanwhile, was placed in concentration storage tanks. The ore was then drawn from these tanks into the Grinding / Rod Mill where it was crushed and agitated in an acid and water solution. This material (known as the "values,") was next pumped into

thickener tanks.

No longer standing, the thickener tanks were made of wood with a stainless steel conical bottom. They were approximately seventeen feet high and thirty feet in diameter. In these tanks, the ore was thickened in a settling process. From the bottom of the thickener tanks, the material was drawn through a Peterson filter process¹ which sucked off the excess liquid leaving a thick paste known as concentrate. Next, the concentrate was placed into one of three revolving dryers that were heated by natural gas burners. Appearing like large steel tubes, the dryers were approximately thirty feet long and eight or more feet in diameter. After one to two hours in the dryers, the concentrate emerged in the form of dry, marble-sized pellets. The final step of the concentrating process was to place the concentrate into large concrete storage bins. From there, it was picked up by a rubber-tired loader and deposited into trucks for transport to the VCA's mill at Durango.

General Description: The mill Dryers were located in a large pavilion, constructed of eight foot high, buttressed concrete walls sitting on a concrete slab. A high, moderately sloped gable roof was supported by a tapered steel post and beam system, connected with "z" channel purlins at four foot centers. The roof was sheathed with a "standing seam" type corrugated sheet metal. A large (approximately twenty foot wide) opening, centered on the southeast wall, provided access. The roof may have extended an additional twenty feet to the southeast, over an adjacent concrete slab.

Two large generators were located within the pavilion. The roof structure held supports for equipment no longer in place at the time of field survey.

¹Former VCA employee Alfred (Buddy) Curtis related that Peterson was the name of the company that manufactured the filter, and that it was generally referred to as a "Peterson filter." He described the filter as a large multi-disc band, made of wood, and covered with nylon filter cloths. As the filter discs revolved, a vacuum process first sucked and then blew the ore against rubber scrapers which removed the slime in the upper rear portion of the filter. An auger then pushed the remaining ore material into the dryers.